IFW 1731

PATENT APPLICATION
Docket No: 14321.76

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of		)
		)
	Atsushi Mori et al.	)
		)
Serial No.:	10/537,179	) Art Unit
		) 1731
Filed:	June 1, 2005	)
		)
Confirmation No.:	7985	)
		)
For:	OPTICAL FIBER AND PRODUCTION METHOD THEREOF	)

CERTIFICATE OF DEPOSIT UNDER 37 C.F.R. § 1.8

I hereby certify that the following documents are being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, Virginia 22313-1450, on the 2nd day of November 2005.

- Transmittal for Information Disclosure Statement (3 pages)
- Information Disclosure Statement (3 pages)
- Form PTO-1449 listing 29 references (3 pages)
- A copy of 25 Non-US references listed on the Form PTO-1449
- Postcard

Respectfully submitted,

DANA L. TANGREN
Attorney for Applicant
Registration No. 37,246
Customer No. 022913
Telephone No. 801.533.9800

DLT:dfw
W:\14321\76\DFW0000015992V001.DOC

RICK D. NYDEGGER
BRENT P. LORIMER
THOMAS R. VUKSINICK
LARRY R. LAYCOCK
JONATHAN W. RICHARDS
DAVID R. WRIGHT
JOHN C. STRINGHAM
JOHN M. GUYNN
CHARLES L. ROBERTS
DANA L. TANGREN
ERIC L. MASCHOFF
CHARLES J. VEVERKA
ROBYN L. PHILLIPS
RICHARD C. GILMORE *
STERLING A. BRENNAN
R. BURNS ISRAELSEN
DAVID R. TODD
DAVID B. DELLENBACH
L. DAVID GRIFFIN
ADRIAN J. LEE
FRASER D. ROY
CARL T. REED

R. PARRISH FREEMAN, JR.
PETER F. MALEN, JR.
L. REX SEARS, PH.D.
WILLIAM R. RICHTER
ROBERT E. AYCOCK
JENS C. JENKINS
MICHAEL B. DODD
KEVIN W. STINGER
WILLIAM J. ATHAY
RYAN D. BENSON
SARA D. JONES
TIGE KELLER
JANNA L. JENSEN
MATTHEW D. TODD
J. LAVAR OLDHAM
MICHAEL J. FRODSHAM
BRETT A. HANSEN
BRETT I. JOHNSON
MATTHEW A. BARLOW
WESLEY C. ROSANDER
ANDREW S. HANSEN
CHAD E. NYDEGGER
JOSEPH G. PIA
CLINTON E. DUKE
RYAN N. FARR *
JAMES B. BELSHE
KIRK R. HARRIS
KEELY SCHNEITER
MICHAEL M. BALLARD
DAVID A. JONES
SHANE K. JENSEN
JONATHAN M. BENNS, PH.D.

VERNON R. RICE §
OF COUNSEL

WORKMAN | NYDEGGER

INTELLECTUAL PROPERTY ATTORNEYS

1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111
TELEPHONE: (801) 533-9800
FAX: (801) 328-1707
WEBSITE: HTTP://WWW.WNLAW.COM

PATENT APPLICATION
Docket No: 14321.76

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	Atsushi Mori et al.	)
Serial No.:	10/537,179	) Art Unit) 1731
Filed:	June 1, 2005	)
Confirmation No.:	7985	)
For:	OPTICAL FIBER AND PRODUCTION METHOD THEREOF	)

TRANSMITTAL FOR INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith for filing and pursuant to 37 C.F.R. § 1.97 is an Information Disclosure Statement, which includes the following statements, if any, required variously by 37 C.F.R. § 1.98:

_X_ Statement of relevance of selected cited references not in the English language which are not translated.

___ Statement that selected cited references are substantially cumulative of an enclosed or previously submitted reference.

___ Statement that selected cited references were previously cited by or submitted to the United States Patent and Trademark Office in a prior application which is relied upon for an earlier filing date under 35 U.S.C. § 120.

* Admitted only in California
§ Admitted only in Virginia

A. Additional Materials Required Due to Content of Information Disclosure Statement

Transmitted are the following documents in addition to the Information Disclosure Statement as required variously under 37 C.F.R. § 1.98:

X Form PTO-1449 listing 29 references submitted for consideration.

X A copy of the Non-US references listed on the Form PTO-1449.

___ English translations of ___ (___) of the references listed on the Form PTO-1449 which are not in the English language.

___ Copies of the following documents from the prosecution of a previous, related application:

___ Form PTO-1449 AND INFORMATION DISCLOSURE STATEMENT; and

___ Form PTO-892

B. Additional Materials Required Due to Timing of Filing of Information Disclosure Statement

The transmitted Information Disclosure Statement is being filed within one (1) of the following four (4) time periods:

I. X Prior to the later of either three (3) months following the filing date or the mailing of a first Office Action. Accordingly, no materials other than those listed above are enclosed.

II. ___ Following the latter of either three (3) months following the filing date or the mailing of a first Office Action, but before the mailing of a final Office Action or a Notice of Allowance. Accordingly, to secure consideration thereof, one (1) of the following is also enclosed:

___ Promptness Certification; or

___ Check No. _____ in the amount of ___ constituting the submission fee set forth in 37 C.F.R. § 1.17(p).

III. ___ After the mailing of a Notice of Allowance, but before payment of the Issue Fee. Accordingly, in order to secure consideration thereof, each of the following are also enclosed:

___ Promptness Certificate;

___ Petition for Consideration; and

___ Check No. in the amount of ___ constituting the petition fee set forth in 37 C.F.R. § 1.17(i)(1).

IV. ___ After payment of the Issue Fee. Accordingly, in order to secure consideration thereof, each of the following are also enclosed:

___ Petition to Withdraw from Issue; and

___ Check No. ___ in the amount of ___ constituting the petition fee set forth in 37 C.F.R. § 1.17(i)(1).

C. Fees

The Commissioner is hereby authorized to charge payment of or any deficiency in the following fees associated with this communication, or to credit any overpayment thereof, to Deposit Account No. 23-3178. A duplicate copy of this letter is enclosed.

_X_ Any fee required in relation to filing of this letter or any documents transmitted therewith.

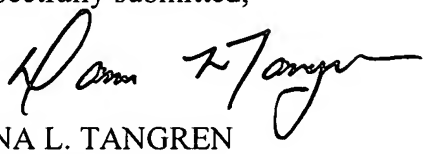
___ The submission fee set forth in 37 C.F.R. § 1.17(p) in the event that 37 C.F.R. § 1.97(c) applies and the Examiner is not satisfied that any Promptness Certificate submitted meets the requirements of 37 C.F.R. § 1.97(e).

___ The submission fee set forth in 37 C.F.R. § 1.17(p).

___ The petition fee set forth in 37 C.F.R. § 1.17(i)(1).

Dated this 2nd day of November 2005.

Respectfully submitted,



DANA L. TANGREN
Attorney for Applicant
Registration No. 37,246
Customer No. 022913
Telephone No. 801.533.9800

DLT:dfw
Enclosures
DFW0000015989V001.doc

PATENT APPLICATION
Docket No: 14321.76

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of		)
		)
	Atsushi Mori et al.	)
		)
Serial No.:	10/537,179	) Art Unit
		) 1731
Filed:	June 1, 2005	)
		)
Confirmation No.:	7985	)
		)
For:	OPTICAL FIBER AND PRODUCTION METHOD THEREOF	)

INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. § 1.97

Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

Sir:

Please find, pursuant to 37 C.F.R. § 1.98(a)(1), the enclosed Form PTO-1449 which contains a list of all patents, publications, or other items that have come to the attention of one or more of the individuals designated in 37 C.F.R. § 1.56(c). While no representation is made that these references may be "prior art" within the meaning of that term under 35 U.S.C. §§ 102 or 103, the enclosed listed references are disclosed so as to fully comply with the duty of disclosure set forth in 37 C.F.R. § 1.56.

Moreover, while no representation is made that a specific search of office files or patent office records has been conducted or that no better art exists, the undersigned attorney of record believes that the enclosed art is the closest to the claimed invention (taken in its entirety) of which the undersigned is presently aware, and no art which is closer to the claimed invention (taken in its entirety) has been knowingly withheld.

In accordance with 37 C.F.R. §§ 1.97 and 1.98, a copy of each of the listed references or relevant portion thereof that is not a US patent document is also enclosed.

Statement of Relevance of References Listed
Unaccompanied by English Translation
Under 37 CFR § 1.98(a)(3)

In accordance with 37 CFR § 1.98(a)(3), the following concise explanation of the relevance of each listed reference that is not in the English language and unaccompanied by a translation into English is provided.

Japan Patent No. 11-236240: PROBLEM TO BE SOLVED: To obtain tellurite glass for light amplification by which an induced emission cross section in a wide band is made more flat by composing the composition of stock glass for an optical fiber or an optical waveguide of Bi_2O_3, Na_2O, ZnO and TeO_2 of a specific mole %. SOLUTION: The tellurite glass as a stock glass used for a light amplifier and a light source is composed of, by mol, >0 to 20%, preferably >1.5 to 15% Bi_2O_3, 0-35% Na_2O, 0-35% ZnO and 55-90% TeO_2. A light amplification medium comprises an optical fiber or an optical waveguide provided with core and clad glasses. Erbium and ytterbium are preferably added to the tellurite glass of the core and clad glasses. A laser device is provided with the light amplification medium and an exciting light source and the optical fiber using the erbium added tellurite glass is used as the light amplifier.

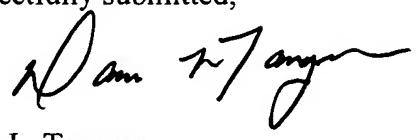
Japan Patent No. 2000-035521: PROBLEM TO BE SOLVED: To make it possible to evade the influence of an optical nonlinear phenomenon and the influence of material dispersion by providing the optical fiber with a core having a region of about several times of the wavelength of light and a clad having a diffraction grating of an inter-grating pacing equal to half the wavelength of the light. SOLUTION: This optical fiber has the core 1 having the region of about several times of the wavelength of the light and the clad 2 which is arranged around the core 1 and is provided with the diffraction grating having the inner-grating pacing equal to half the wavelength of the light in at least a circumferential region adjacent to the core 1. The core 1 is a hole and the refractive index thereof is equal to the refractive index of air and is nearly 1. The core 1 formed of the hollow hole is free from a factor to scatter the light and is, therefore, most preferable. The circumferential region adjacent to the core 1 is provided with the diffraction grating having the inter-grating pacing equal to half the wavelength of the light. Namely, the optical fiber is provided with a photonic band gap structure over a diameter 2b. The light may be confined and propagated in the core 1 in such a manner that the light does not propagate in the radial direction from the center of the core 1 of the optical fiber.

Japan Patent No. 2000-356719: PROBLEM TO BE SOLVED: To provide a device which exhibits a relatively large nonlinear interaction at visible and near IR (vis-nir) wavelengths. SOLUTION: A suitably designed optical waveguide exhibits an abnormal (positive) dispersion over the continuous body of the vis-nir wavelength and the fiber 10 exhibits zero dispersion at a visible wavelength (for example, about 760 nm). These characteristics are achieved by mutually matching a core region 12 and the refractive index difference between the core region 12 and a clad 14 (making the core region 12 relatively small and making the refractive index difference relatively large). In a

more preferable embodiment, the zero dispersion point occurs at the vis-nir wavelength. For example, the optical waveguide is fine structure fiber 10 having the silica core 12 enclosed by the relative thin inner clad 14 having plural capillary holes 14 and 1 enabling the refractive index waveguide in the core 12. The patterns of the cross sections of the holes are for example, hexagonal or triangular.

Dated this 2nd day of November 2005.

Respectfully submitted,



Dana L. Tangren
Attorney for Applicant
Registration No. 37,246
Customer No. 022913
Telephone No. 801.533.9800

DLT:dfw
W:\14321\76\DFW0000015992V001.DOC

Form PTO-1449 | Sheet 1 of 3

Applicant: Atsushi Mori et al. | Confirmation No.: 7985

Serial No.: 10/537,179 | Att'y Docket No.: 14321.76

Filing Date: June 1, 2005 | Art Unit: 1731

For: OPTICAL FIBER AND PRODUCTION METHOD THEREOF

INFORMATION DISCLOSURE CITATIONS MADE BY APPLICANT

U.S. Patent Documents

Examiner Initial*	Document Number	Issue Date	Name
_____ 1	6,097,870	08/01/2000	Ranka et al.
_____ 2	6,356,387 B1	03/12/2002	Ohishi et al.
_____ 3	6,404,966 B1	06/11/2002	Kawanishi et al.
_____ 4	2003/0161599 A1	08/28/2003	Broderick et al.

Foreign Patent Documents

Examiner Initial*	Document Number	Publication Date	Country or Patent Office	Translation
_____ 5	11-236240	08/31/1999	Japan	No
_____ 6	2000-035521	02/02/2000	Japan	No
_____ 7	2000-356719	12/26/2000	Japan	No
_____ 8	2002-293562	10/09/2002	Japan	Partial
_____ 9	2003-149464	05/21/2003	Japan	Partial
_____ 10	WO 02/014946 A1	02/21/2002	PCT	N/A
_____ 11	WO 02/095460 A1	11/28/2002	PCT	N/A

Other Documents

(including author, title, pertinent pages, etc.)

Examiner Initial*

_____ 12 Atsushi Mori et al., *1.5μm Broadband Amplification by Tellurite-Based EDFAs*, Optical Fiber Communication Conference and Exhibit 1997, Vol. 6, February 16-21, 1997, PD1-4.

Examiner: Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

_____ 13 Shojiroh Kawakami et al., *Optical Fibers and Fiber-type Devices*, Baifukan, Inc., Advanced Electronics Series, p. 97, with English translation.

_____ 14 A. Bjarklev et al., *Photonic Crystal Fibres – The State-of-the-Art*, 28th European Conference on Optical Communication, September 8-12, 2002, Vol. 1, Holey Fibers Symposium 1.1.

_____ 15 Eric S. Hu et al., *Design of Highly-Nonlinear Tellurite Fibers with Zero Disperson Near 1550 nm*, 28th European Conference on Optical Communication, September 8-12, 2002, Vol. 2, Nonlinearities – Parametric Amplifiers 3.2.3.

_____ 16 Atsushi Mori, et al., *Broadband Amplification Characteristics of Tellurite-Based EDFAs*, 11th International Conference on Integrated Optics and Optical Fibre Communications, September 22-25, 1997, Paper We2C.4, pp. 135-138.

_____ 17 Se-Hoon Kim et al., *Linear and Nonlinear Optical Properties of TeO_2 Glass*, Journal of the American Ceramic Society, Vol. 76, No. 10, 1993, pp. 2486-2490.

_____ 18 M.J. Gander et al., *Experimental Measurement of Group Velocity Dispersion in Photonic Crystal Fibre*, Electronic Letters, Vol. 35, No. 1, January 7, 1999, pp. 63-64.

_____ 19 T.A. Birks et al., *Endlessly Single-Mode Photonic Crystal Fiber*, Optics Letters, Vol. 22, No. 13, July 1, 1997, pp. 961-963.

_____ 20 A. Mori et al., *Ultra-Wide-Band Tellurite-Based Fiber Raman Amplifier*, Journal of Lightwave Technology, Vol. 21, No. 2, May 2003, pp. 1300-1306.

_____ 21 P. Petropoulos et al., *Solution-self-frequency-shift Effects and Pulse Compression in an Anomalously Dispersive High Nonlinearity lead Silicate Holey Fiber,* Optical Fiber Communication Conference & Exposition, March 23-29, 2003, PD3-1-3-3.

_____ 22 V. V. Ravi Kanth Kumar et al., *Tellurite Glass Photonic Crystal Fiber*, ECOC-IOOC 2003, September 21-2, 2003, pp. 38-39.

_____ 23 Gorachand Ghosh, *Sellmeier Coefficients and Chromatic Dispersions for Some Tellurite Glasses*, Journal of the American Ceramic Society, Vol. 78, No. 10, 1995, pp. 2828-30.

_____ 24 T.A. Birks, et al., *Dispersion Compensation Using Single-Material Fibers*, IEEE Photonics Technology Letters, Vol. 11, No. 6, June 1999, pp. 674-676.

Examiner: Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

_____ 25 A. Mori et al., *Ultra-wideband Tellurite-based Raman Fibre Amplifier*, Electronics Letters, Vol. 37, No. 24, November 22, 2001, pp. 1442-1443.

_____ 26 Govind P. Agrawal, *Nonlinear Fiber Optics*, Second Edition, Academic Press, 1995, pp. 42-43.

_____ 27 Ning Guan et al., *Analysis of Field Confined Holey Fibers Based on Boundary Element Method*, The Institute of Electronics, Information, and Communication Engineers, Technical Report of IEICE, OFT2002-11, 2002-05, pp. 9-14, with English translation.

_____ 28 Ning Guan et al., *Characteristics of Field Confined Holey Fiber Analyzed by Boundary Element Method*, Optical Fiber Communications, March 21, 2002, pp. 525-527.

_____ 29 J.C. Knight et al., *Two-Dimensional Photonic Crystal Material in Fibre Form*, Conference on Lasers and Electro-optics, September 8-13, 1996, pp. 75.

References Cited by Applicants

While the filing of Information Disclosure Statements is voluntary, the procedure is governed by the guidelines of Section 609 of the Manual of Patent Examining Procedure and 37 C.F.R. §§ 1.97 and 1.98. To be considered a proper Information Disclosure Statement, Form PTO-1449 shall be accompanied by a copy of each listed patent or publication or other item of information and a translation of the pertinent portions of foreign documents (if an existing translation is readily available to the applicant), an explanation of relevance of each reference not in the English language, and should be submitted in a timely manner as set out in MPEP Sec. 609.

Examiners will consider all citations submitted in conformance with 37 C.F.R. § 1.98 and MPEP Sec. 609 and place their initials adjacent the citations in the spaces provided on this form. Examiners will also initial citations not in conformance with the guidelines which may have been considered. A reference may be considered by the Examiner for any reason whether or not the citation is in full conformance with the guidelines. A line will be drawn through a citation if it is not in conformance with the guidelines AND has not been considered. A copy of the submitted form, as reviewed by the Examiner, will be returned to the applicant with the next communication. The original of the form will be entered into the application file.

Each citation initialed by the Examiner will be printed on the issued patent in the same manner as references cited by the Examiner on Form PTO-892.

The reference designations "A1," "A2," etc. (referring to Applicant's reference 1, Applicant's reference 2, etc.) will be used by the Examiner in the same manner as Examiner's reference designations "A," "B," "C," etc. on Office Action Form PTO-1142.

W:\14321\76\DFW0000015990V001.doc

Examiner: Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.